

# PATENT ABSTRACTS OF JAPAN

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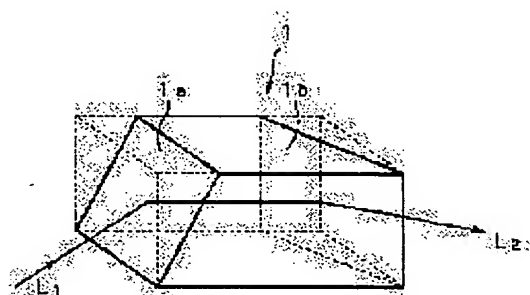
## (54) NON-LINEAR OPTICAL CRYSTAL ELEMENT AND LASER LIGHT GENERATING DEVICE

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To obtain a maximum outgoing light output by providing an incident end side crystal surface cut so as to keep the Brewster's angle for the polarization direction of an incident light beam and an exciting end side crystal surface cut so as to keep the Brewster's angle for the polarization direction of an exiting light beam.

**SOLUTION:** Although a non-linear optical element 1 is used as a wavelength conversion element making a wavelength of basic wave light L1 1/2 and outputting harmonic light L2 of a short wavelength, it outputs by changing the polarization directions of the basic wave light L1 and the harmonic light L2 by 90°.

The incident end side crystal surface 1a is cut so as to keep the Brewster's angle for the polarization direction of the basic wave light L1 of the wavelength 532nm being the incident light beam. Further, the exiting end side crystal surface 1b is cut so as to keep the Brewster's angle for the polarization direction of the harmonic light L2 of the wavelength 266nm being the exiting light beam. Thus, the occurrence of a reflection loss due to a Fresnel loss is prevented by both surfaces, and the maximum exiting light output is obtained.



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